Service Schematics

NOKIA 5310 XpressMusic

RM-303 / RM-304

Introduction

Important:

This document is intended for use by authorized service centers only.

“Service Schematics“ was created with focus on customer care.
The purpose of this document is to provide further technical repair information for NOKIA mobile phones on Level 3/4 service activities.
It contains additional information such as e.g. “Component finder”, “Frequency band table” or “Antenna switch table”.
The “Signal overview” page gives a good and fast overview about the most important signals and voltages on board.
Saving process time and improving the repair quality is the aim of this document.
It is to be used additionaly to the service manual and other training or service information such as Service Bulletins.

All measurements were made using following equipment:

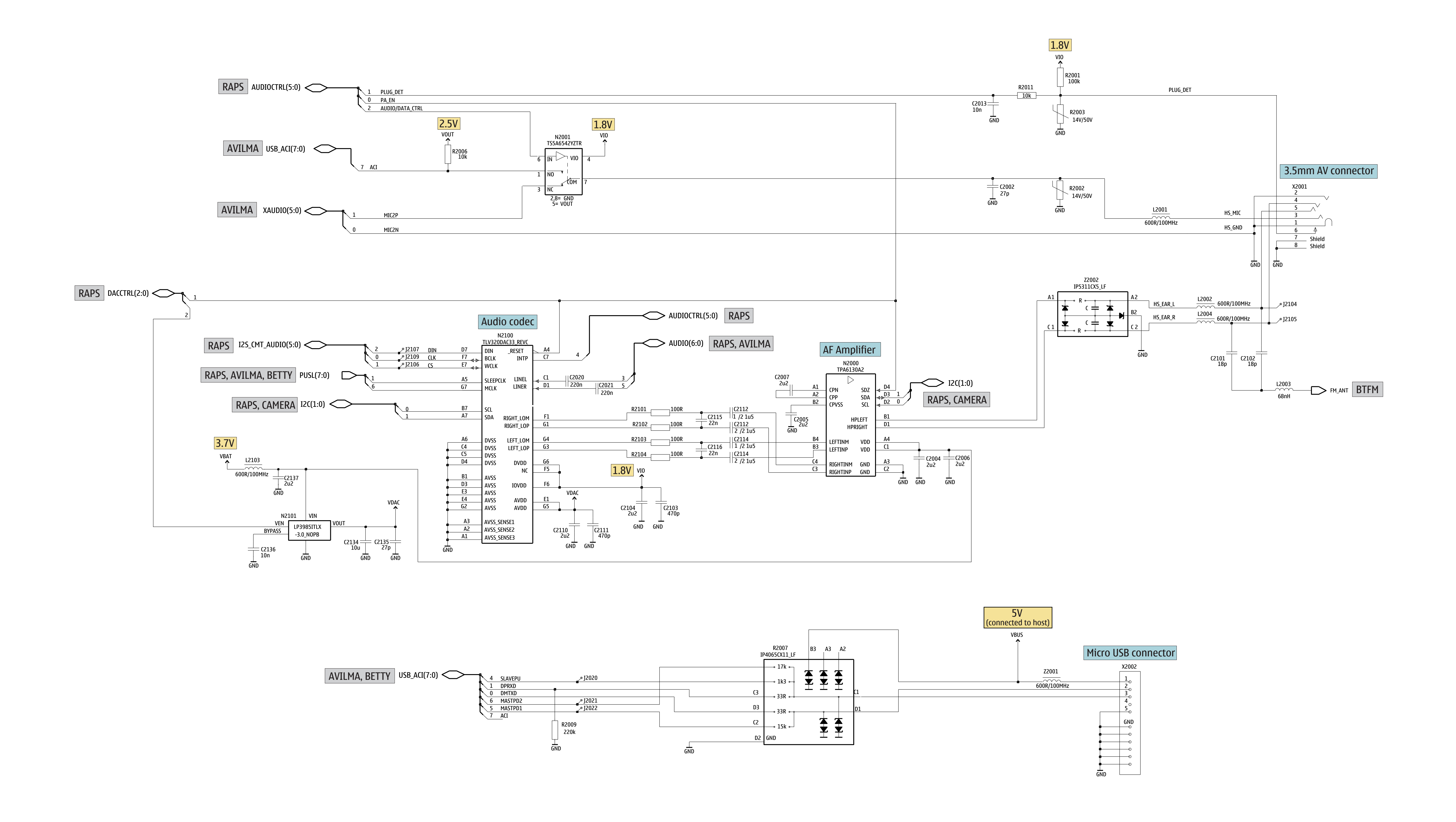
Nokia repair SW	:	Phoenix version 2007.20.9.28808
Oscilloscope	:	Fluke PM 3380A/B
Spectrum Analyzer	:	Advanced R3162 with an analog probe
RF-Generator/GSM Tester	:	Rhode & Schwarz CMU 200
Multimeter	:	Fluke 73 Series II

While every endeavour has been made to ensure the accuracy of this document, some errors may exist. If the reader finds any errors, NOKIA should be notified in writing.

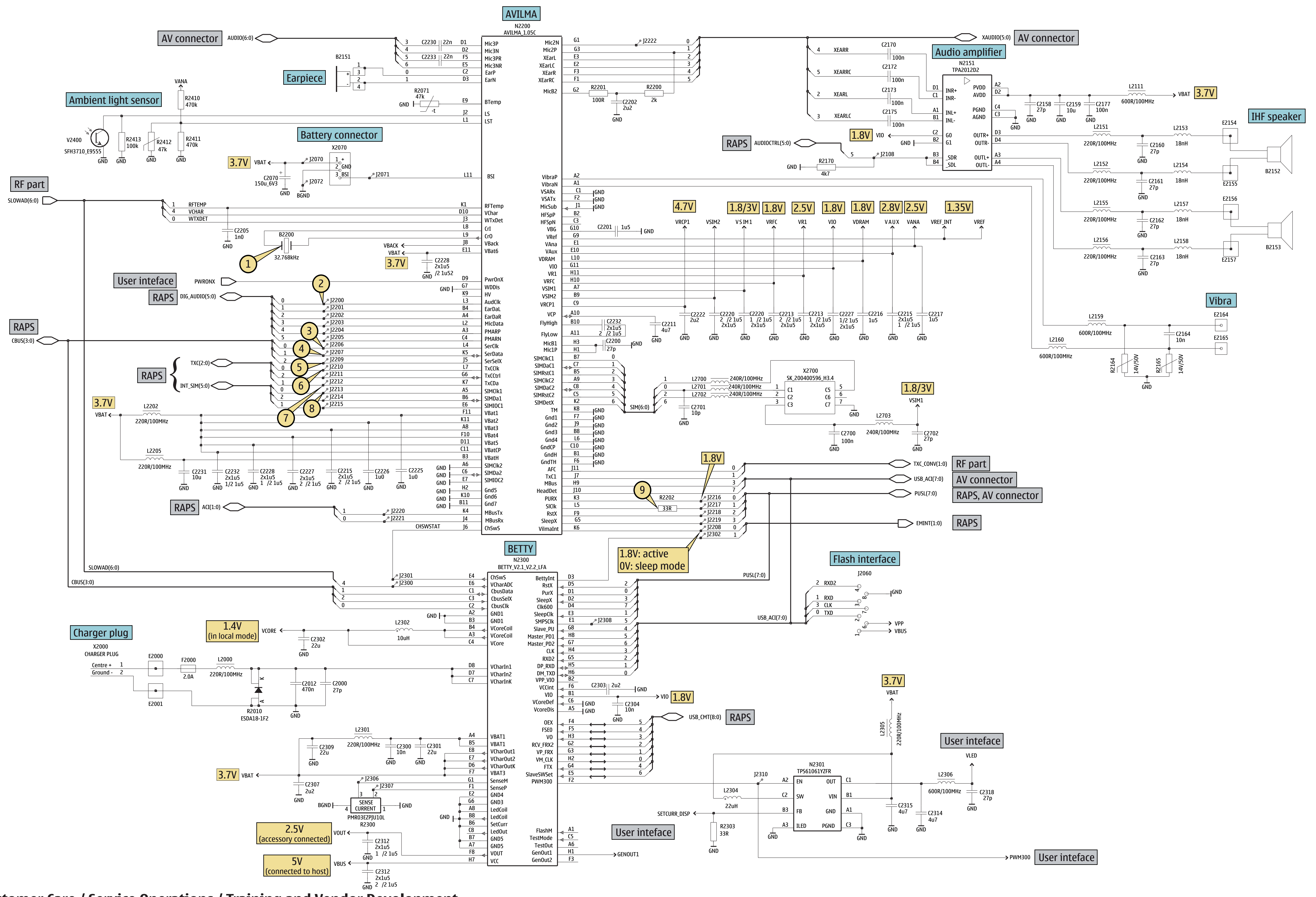
Please send E-Mail to: TrainingAndVendor.Development@nokia.com

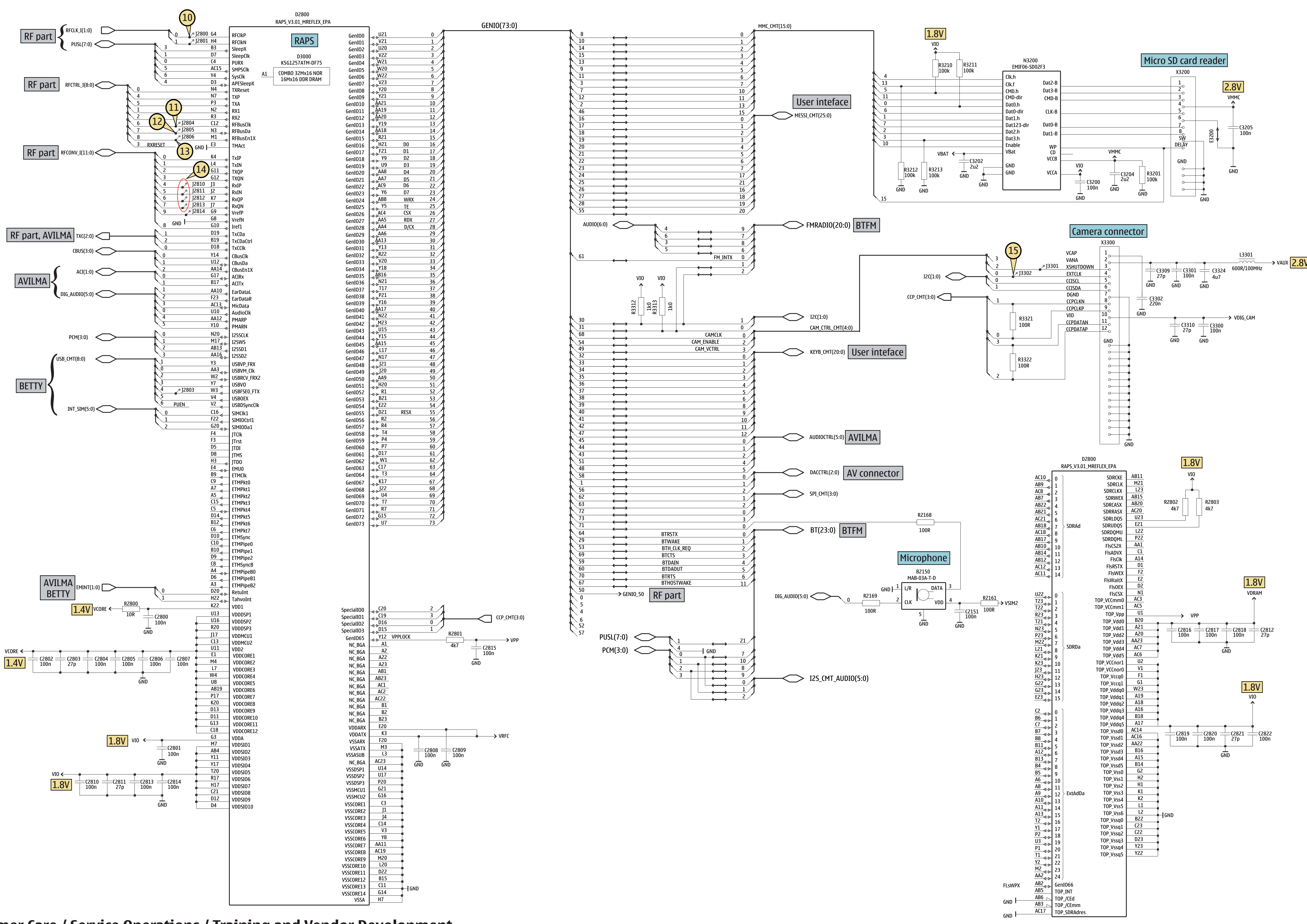


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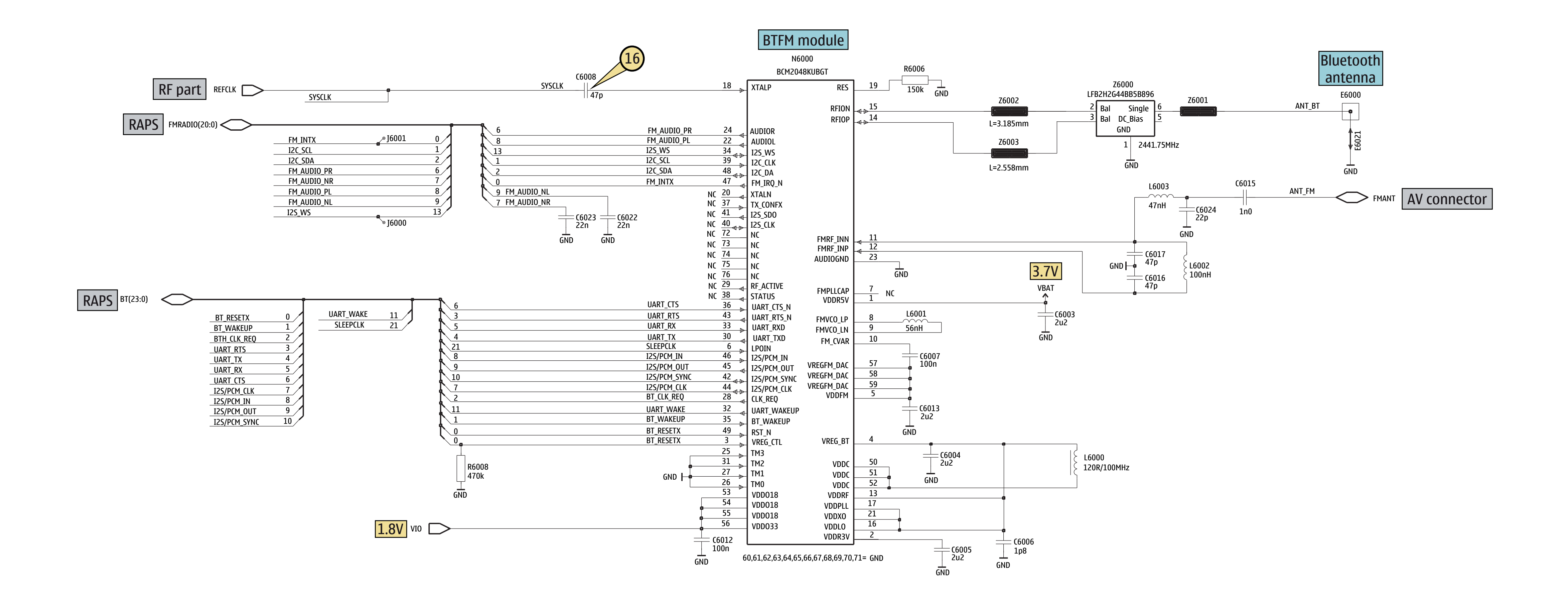


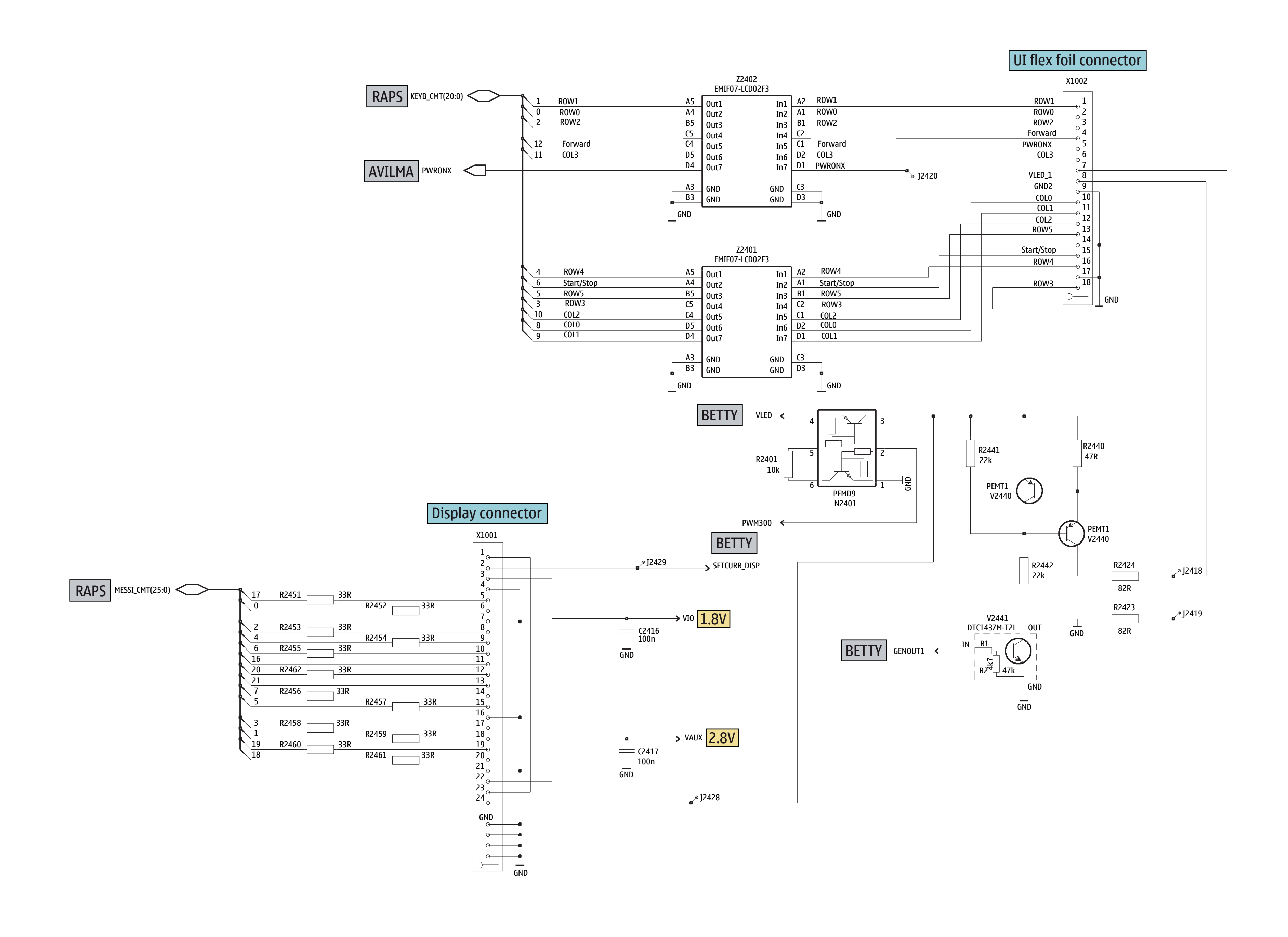
RAPS
AUDIOCTRL(5:0)
PLUG_DET
PA_EN
AUDIO/DATA_CTRL
AVILMA
USB_ACI(7:0)
ACI
AVILMA
XAUDIO(5:0)
MIC2P
MIC2N
2.5V
VOUT
R2006
10k
1.8V
VIO
N2001
TS5A6542YZTR
1.8V
VIO
R2001
100k
R2011
10k
C2013
10n
R2003
14V/50V
C2002
27p
R2002
14V/50V
L2001
600R/100MHz
HS_MIC
HS_GND
3.5mm AV connector
X2001
Shield
Shield
RAPS
DACCTRL(2:0)
Z2002
IP5311CX5_LF
HS_EAR_L
HS_EAR_R
L2002
600R/100MHz
L2004
600R/100MHz
J2104
J2105
C2101
18p
C2102
18p
L2003
68nH
FM_ANT
BTFM
Audio codec
N2100
TLV320DAC33_REVC
AUDIOCTRL(5:0)
RAPS
AUDIO(6:0)
RAPS, AVILMA
RAPS
I2S_CMT_AUDIO(5:0)
RAPS, AVILMA, BETTY
PUSL(7:0)
RAPS, CAMERA
I2C(1:0)
AF Amplifier
N2000
TPA6130A2
I2C(1:0)
RAPS, CAMERA
3.7V
VBAT
L2103
600R/100MHz
C2137
2u2
N2101
LP3985ITLX
-3.0_NOPB
C2136
10n
C2134
10u
C2135
27p
VDAC
1.8V
VIO
C2104
2u2
C2103
470p
C2110
2u2
C2111
470p
C2007
2u2
C2005
2u2
C2004
2u2
C2006
2u2
5V
(connected to host)
VBUS
Micro USB connector
X2002
Z2001
600R/100MHz
R2007
IP4065CX11_LF
AVILMA, BETTY
USB_ACI(7:0)
SLAVEPU
DPRXD
DMTXD
MASTPD2
MASTPD1
ACI
J2020
J2021
J2022
R2009
220k
GND

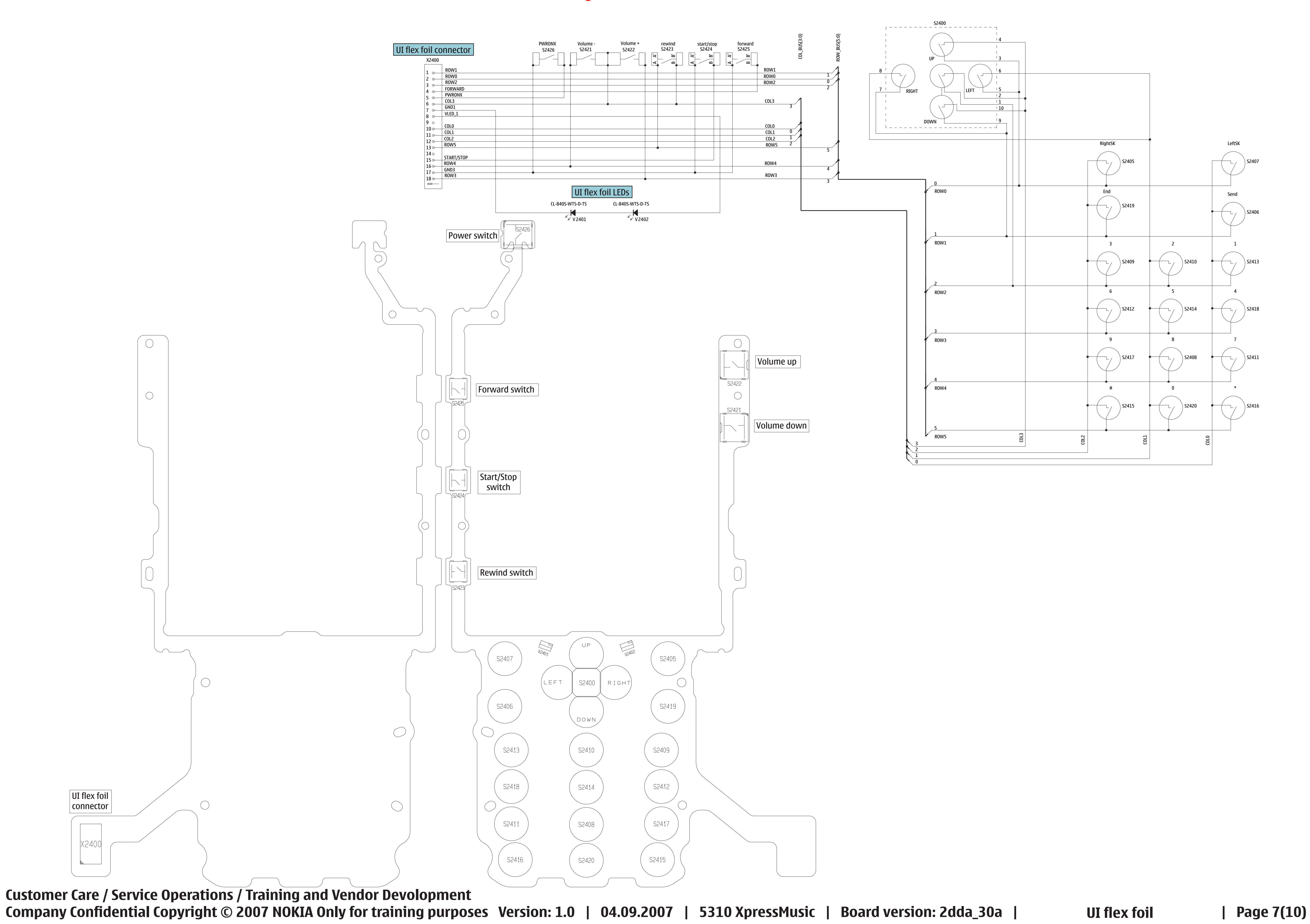

AVILMA
N2200
AVILMA_1.05C
AV connector
Audio amplifier
N2151
TPA2012D2
Earpiece
Ambient light sensor
Battery connector
RF part
User inteface
RAPS
IHF speaker
Vibra
BETTY
N2300
BETTY_V2.1_V2.2_LFA
Charger plug
X2000
CHARGER PLUG
1.4V
(in local mode)
2.5V
(accessory connected)
5V
(connected to host)
Flash interface
J2060
1.8V: active
0V: sleep mode
RAPS, AV connector
3.7V
1.8V
4.7V
1.8/3V
2.5V
2.8V
1.35V
N2301
TPS61061YZFR

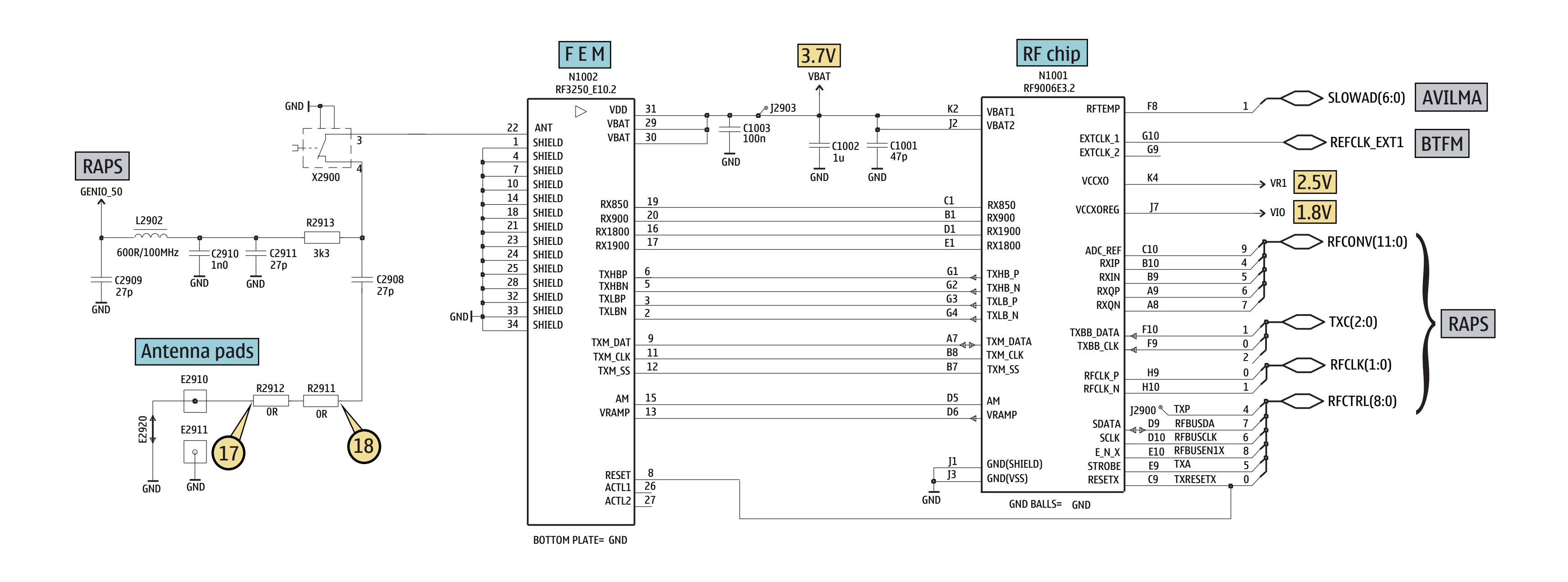


RF part
RF part
RF part
RF part, AVILMA
AVILMA
BETTY
AVILMA BETTY
D2800
RAPS_V3.01_MREFLEX_EPA
RAPS
D3000
K5G1257ATM-DF75
COMBO 32Mx16 NOR 16Mx16 DDR DRAM
GENIO(73:0)
MMC_CMT(15:0)
1.8V
N3200
EMIF06-SD02F3
Micro SD card reader
X3200
2.8V
User inteface
MESSI_CMT(25:0)
FMRADIO(20:0)
BTFM
Camera connector
X3300
2.8V
I2C(1:0)
CCP_CMT(3:0)
KEYB_CMT(20:0)
User inteface
AUDIOCTRL(5:0)
AVILMA
DACCTRL(2:0)
AV connector
SPI_CMT(3:0)
BT(23:0)
BTFM
Microphone
B2150
MAB-03A-T-D
RF part
PUSL(7:0)
PCM(3:0)
I2S_CMT_AUDIO(5:0)
1.4V
1.4V
1.8V
1.8V
D2800
RAPS_V3.01_MREFLEX_EPA
1.8V
1.8V
1.8V

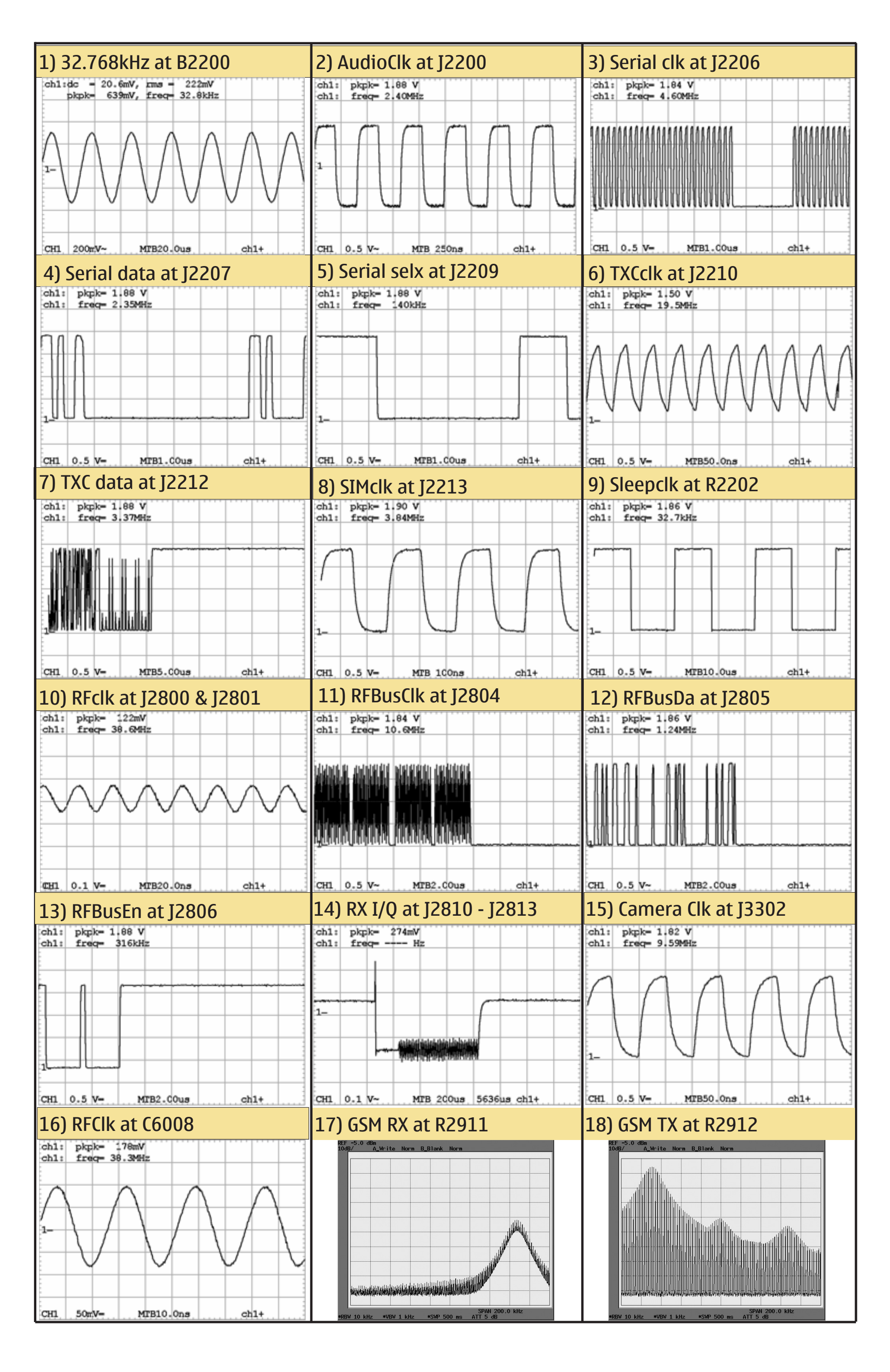

BTFM module
N6000
BCM2048KUBGT
RF part
REFCLK
SYSCLK
C6008
47p
16
RAPS
FMRADIO(20:0)
RAPS
BT(23:0)
Bluetooth antenna
E6000
ANT_BT
Z6000
LFB2H2G44BB5B896
Z6001
Z6002
L=3.185mm
Z6003
L=2.558mm
R6006
150k
2441.75MHz
AV connector
FMANT
ANT_FM
C6015
1n0
L6003
47nH
C6024
22p
C6017
47p
C6016
47p
L6002
100nH
3.7V
VBAT
C6003
2u2
L6001
56nH
C6007
100n
C6013
2u2
C6004
2u2
L6000
120R/100MHz
C6005
2u2
C6006
1p8
1.8V
VIO
C6012
100n
R6008
470k
J6001
J6000
C6023
22n
C6022
22n
GND


UI flex foil connector
X1002
Z2402
EMIF07-LCD02F3
Z2401
EMIF07-LCD02F3
RAPS
KEYB_CMT(20:0)
AVILMA
PWRONX
BETTY
VLED
PWM300
GENOUT1
Display connector
X1001
MESSI_CMT(25:0)
VIO
1.8V
VAUX
2.8V
SETCURR_DISP
PEMD9
N2401
PEMT1
V2440
V2441
DTC143ZM-T2L
GND


UI flex foil connector
X2400
PWRONX S2426
Volume - S2421
Volume + S2422
rewind S2423
start/stop S2424
forward S2425
ROW1
ROW0
ROW2
FORWARD
PWRONX
COL3
GND1
VLED_1
COL0
COL1
COL2
ROW5
START/STOP
ROW4
GND3
ROW3
COL_BUS(3:0)
ROW_BUS(5:0)
S2400
UP
RIGHT
LEFT
DOWN
UI flex foil LEDs
CL-840S-WTS-D-TS
V2401
V2402
RightSK
S2405
LeftSK
S2407
End
S2419
Send
S2406
S2409
S2410
S2413
S2412
S2414
S2418
S2417
S2408
S2411
S2415
S2420
S2416
Power switch
S2426
Volume up
S2422
Volume down
S2421
Forward switch
S2425
Start/Stop switch
S2424
Rewind switch
S2423
UI flex foil connector
X2400



RAPS
GENIO_50
L2902
600R/100MHz
C2909
27p
GND
C2910
1n0
C2911
27p
R2913
3k3
C2908
27p
GND
X2900
Antenna pads
E2910
E2911
E2920
R2912
0R
R2911
0R
17
18
F E M
N1002
RF3250_E10.2
ANT
SHIELD
VDD
VBAT
RX850
RX900
RX1800
RX1900
TXHBP
TXHBN
TXLBP
TXLBN
TXM_DAT
TXM_CLK
TXM_SS
AM
VRAMP
RESET
ACTL1
ACTL2
BOTTOM PLATE= GND
3.7V
VBAT
J2903
C1003
100n
C1002
1u
C1001
47p
RF chip
N1001
RF9006E3.2
VBAT1
VBAT2
TXHB_P
TXHB_N
TXLB_P
TXLB_N
TXM_DATA
GND(SHIELD)
GND(VSS)
GND BALLS= GND
RFTEMP
EXTCLK_1
EXTCLK_2
VCCXO
VCCXOREG
ADC_REF
RXIP
RXIN
RXQP
RXQN
TXBB_DATA
TXBB_CLK
RFCLK_P
RFCLK_N
J2900
TXP
SDATA
SCLK
E_N_X
STROBE
RESETX
RFBUSDA
RFBUSCLK
RFBUSEN1X
TXA
TXRESETX
SLOWAD(6:0)
AVILMA
REFCLK_EXT1
BTFM
VR1
2.5V
VIO
1.8V
RFCONV(11:0)
TXC(2:0)
RFCLK(1:0)
RFCTRL(8:0)
RAPS



Nokia Corporation
PROTO
B3
Model: XXYY Type: RM-303
Z4A023573
Property of Nokia Not for sale
HWID 0311
004401/01/271340/6
MADE IN FINLAND

VAUX=1.8V
VIO=1.8V
VDRAM=1.8V
VIO=1.8V
VCORE=1.4V
1.8V: active
0V: sleep mode
VDRAM=1.8V
PURX=1.8V
VR1=1.8V
VRCP1=4.7V
VIO=1.8V
VIO=1.8V
VBAT=3.7V
VBAT=3.7V
VIO=1.8V
VBAT=3.7V



B		C2309	F2	E2701	F5	R2170	D2
B2150	C2	C2312	F4	E2910	B7	R2200	I3
B2151	T6	C2314	E3	E2911	C8	R2201	I3
B2152	C5	C2315	E3	E6000	S9	R2202	G4
B2153	D8	C2318	E2	**F**		R2250	H4
B2200	H4	C2416	T3	F2000	S8	R2251	H4
C		C2417	T4	**L**		R2300	F7
C1001	E6	C2700	F6	L2000	R8	R2303	E3
C1002	E6	C2701	E6	L2001	T4	R2401	E3
C1003	E5	C2702	H2	L2002	S2	R2410	T3
C2000	R6	C2800	I6	L2003	S2	R2411	T3
C2001	S8	C2801	G7	L2004	S2	R2412	T4
C2002	T4	C2802	I5	L2103	F8	R2413	T4
C2004	F9	C2803	F5	L2111	C3	R2423	E2
C2005	F8	C2804	F5	L2151	C4	R2424	E2
C2006	F8	C2805	I6	L2152	C4	R2440	E2
C2007	F8	C2806	F6	L2153	C5	R2441	F2
C2012	R6	C2807	G7	L2154	C5	R2442	F2
C2013	R5	C2808	F6	L2155	D5	R2451	T8
C2014	R2	C2809	I7	L2156	D5	R2452	T8
C2020	E5	C2810	H7	L2157	C7	R2453	T8
C2021	E5	C2811	F5	L2158	C7	R2454	T7
C2070	F9	C2812	I7	L2159	R7	R2455	T7
C2101	S2	C2813	G7	L2160	R7	R2456	T7
C2102	S2	C2814	G4	L2202	H2	R2457	T8
C2103	F8	C2815	F6	L2205	I2	R2458	T8
C2104	G8	C2816	I5	L2301	F2	R2459	T8
C2110	G8	C2817	F5	L2302	G2	R2460	T8
C2111	F8	C2818	I7	L2304	E4	R2461	T8
C2112	G9	C2819	F5	L2305	F3	R2462	T7
C2114	F9	C2820	F6	L2306	E3	R2800	I6
C2115	G8	C2821	H7	L2700	E6	R2801	F6
C2116	G9	C2822	I5	L2701	E6	R2802	I6
C2134	F8	C2900	F8	L2702	E6	R2803	I7
C2135	F8	C2908	B7	L2703	F6	R2911	B7
C2136	F7	C2909	F4	L2900	F8	R2912	B8
C2137	F8	C2910	C7	L2902	F4	R2913	C7
C2151	D2	C2911	C7	L3301	H8	R3201	E5
C2156	T7	C3115	H8	L6000	D3	R3210	F6
C2157	T7	C3116	H8	L6001	C3	R3211	F6
C2158	C2	C3200	E6	L6002	C3	R3212	F6
C2159	C2	C3202	E6	L6003	C3	R3213	E6
C2160	C4	C3204	E6	L6020	T9	R3305	H8
C2161	C4	C3205	E5	**N**		R3312	D4
C2162	C7	C3300	S6	N1001	D8	R3313	D4
C2163	D7	C3301	R6	N1002	D6	R3321	H7
C2164	R7	C3302	R5	N2000	F8	R3322	H7
C2170	D3	C3309	R5	N2001	R2	R6006	C4
C2171	D3	C3310	S6	N2100	G8	R6008	C4
C2172	D2	C3324	H8	N2101	F8	**V**	
C2173	D2	C6003	D3	N2151	D3	V2400	T4
C2174	D2	C6004	D3	N2200	H3	V2440	E2
C2175	D2	C6005	D3	N2300	F3	V2441	F2
C2177	C2	C6006	C4	N2301	E3	**X**	
C2200	I4	C6007	D3	N2401	E2	X1001	T3
C2201	G4	C6008	D4	N3200	F6	X1002	C3
C2202	I4	C6011	D3	N3301	H8	X2000	R9
C2205	F7	C6012	D4	N6000	D4	X2001	T3
C2211	G2	C6013	D4	**R**		X2002	U5
C2213	G4	C6015	C3	R2001	R3	X2060	D5
C2215	G3	C6016	C3	R2002	T4	X2070	G7
C2216	G4	C6017	C3	R2003	R4	X2700	E6
C2217	I3	C6020	T8	R2004	R3	X2900	B7
C2220	H2	C6021	T9	R2005	F9	X3200	E3
C2222	H2	C6022	D4	R2006	S2	X3300	S5
C2223	F4	C6023	D4	R2007	T4	**Z**	
C2225	H2	C6024	C3	R2009	U4	Z2001	R6
C2226	G4	**D**		R2010	R6	Z2002	S2
C2227	G3	D2800	G6	R2011	R4	Z2401	C2
C2228	G2	D3000	G6	R2020	H8	Z2402	C2
C2230	E5	**E**		R2071	R2	Z2900	B7
C2231	I2	E2000	S9	R2101	G8	Z2901	B8
C2232	H2	E2001	R9	R2102	G8	Z6000	C4
C2233	E5	E2154	C5	R2103	G8		
C2300	F2	E2155	B5	R2104	G9		
C2301	F3	E2156	D9	R2161	D2		
C2302	G3	E2157	E7	R2164	R7		
C2303	F4	E2164	R8	R2165	R7		
C2304	G3	E2165	R7	R2168	D2		
C2307	F4	E2700	D6	R2169	D2		